

Amendments to the Drawings:

The attached sheet includes new FIGS. 3A-3C.

In FIG. 3A, element 310A illustrates the feature of a ribbon bond, which is described in the specification, and included in the claims, in the application as originally filed.

In FIG. 3B, element 310B illustrates the feature of a mesh bond, which is described in the specification, and included in the claims, in the application as originally filed.

In FIG. 3C, element 310C illustrates the feature of a plurality of wire bonds, which is described in the specification, and included in the claims, in the application as originally filed.

No new matter has been added.

Attachment: New Drawing Sheet

REMARKS/ARGUMENTS

Claims 1, 9, 10 and 16 have been amended, no new claims have been added, and claims 1-25 remain pending in this application. New FIGS. 3A, 3B and 3C are now added. No new matter has been added.

1. Objection to the Disclosure

The disclosure stands objected to because, at pages 7 and 8, paragraphs [0021] and [0022], the Examiner indicated that the following recitations should be rewritten for clarity: "cut 402" "mount 404"; "place 408"; "select 502"; "mount 504"; "couple 506"; "place 508".

In response, Applicants have now amended paragraphs [0021] and [0022] to clearly identify the above-identified recitations. Accordingly, the specification is believed to be allowable.

2. Objection to the Drawings

The drawings stand objected to under 37 CFR 1.83(a) because the drawings must show every feature of the invention specified in the claims.

In response, Applicants have now amended the application to include FIGS. 3A, 3B, and 3C, which illustrate a conventional ribbon bond 310A, a conventional mesh bond 310B, and a conventional plurality of wire bonds 310C. In the application as originally filed, these features are represented by bridge connector 310 shown in FIG. 3, and described in paragraph [0019] as follows: "The bridge conductor 310 should be a low loss conductor and, by way of example, may comprise a ribbon bond, a mesh bond, or a plurality of wire bonds (e.g., a plurality of fine gold wires)." Accordingly, the drawings are believed to be allowable.

3. Rejection of Claims 1-8 and 22 Under 35 U.S.C. 112, Second Paragraph

Claims 1-8 and 22 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states “[i]n claim 1, note that it is unclear if ‘a ground shield’ is properly characterized as being ‘in a direction transverse to the conductor’ and still surround the dielectric layers. From the disclosure, it appears that portions of the ground shield are also parallel to the conductor. Clarification is needed.”

In response, Applicants respectfully request reconsideration of the rejection of claim 1. The limitation of “a ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor” is believed to be clear. This limitation is in contrast to a pair of ground shields that include sheets in a parallel configuration to one another that do not surround a conductor in a direction transverse thereto. Claim 1 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

The Examiner indicates that in claim 1, line 6, that “its” (first occurrence) should be rewritten as --the respective-- and “its” (second occurrence) should be rewritten --the corresponding-- for an appropriate characterization.

In response, Applicants have now amended claim 1 as suggested by the Examiner. Claim 1 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

The Examiner indicates that line 2 of each of claims 9, 10 and 16, a --:-- should follow “comprising” for proper characterization.

In response, Applicants have now amended claims 9, 10 and 16 as suggested by the Examiner. Claims 9, 10 and 16 are believed to be in condition for allowance, and allowance thereof is respectfully requested.

The Examiner indicates that line 8 of claim 9, and line 13 of claim 10, --corresponding-- should precede “microwave module”.

In response, Applicants have now amended claims 9 and 10 as suggested by the Examiner. Claims 9 and 10 are believed to be in condition for allowance, and allowance thereof is respectfully requested.

4. Rejection of Claims 1, 9, 10, 16 and 22-25 Under 35 U.S.C. 103(a)

Claims 1, 9, 10, 16 and 22-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Ishihara (Japanese Patent No. 92102; hereinafter "Ishihara") in view of Arledge et al. (U.S. Patent No. 6,000,120; hereinafter "Arledge").

Claim 1 calls for **a microwave circuit comprising first and second microwave modules**, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and **a ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath the respective upper thickfilm dielectric to terminate at a cut edge of the corresponding microwave module; the microwave modules being mounted with said cut edges facing one another; a bridge conductor, electrically coupling the first ends of the conductors; and **a ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. (Emphasis added.)

Applicants believe Ishihara discloses layers of metallization on dielectric layers; however, the layers of metallization do not surround the center conductor as the sides of the layers metallization are unconnected. Applicants assert Ishihara provides no suggestion or motivation for a microwave circuit having a ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor. Furthermore, Ishihara provides no suggestion or motivation for a microwave circuit having a ground shield cap, oriented over a bridge conductor and electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules.

Applicants believe Arledge discloses a coaxial transmission line on a high density PCB. The coaxial transmission line has a center conductor which is surrounded in a direction transverse thereto by a dielectric material, which in turn is surrounded in a direction transverse thereto by a ground shield. Applicants assert Arledge provides no suggestion or motivation for a conductor that extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave

module. Furthermore, Arledge provides no suggestion or motivation for microwave modules being mounted with cut edges facing one another. Arledge provides no suggestion or motivation for a bridge conductor or a ground shield cap.

Applicants believe neither Ishihara nor Arledge teach or suggest a **microwave circuit having first and second microwave modules**, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and a **ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and a **ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge provide any suggestion or motivation to one of ordinary skill in the art, without relying on a hindsight, to select the above-identified claimed features. Accordingly, claim 1 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

Claim 22, which depends directly from independent claim 1, is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 22 is respectfully requested.

Claim 9 calls for a **microwave circuit comprising first and second microwave modules**, each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the corresponding microwave module; wherein, for each microwave module, **the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor; the microwave modules being mounted with said cut edges facing one another**; a bridge conductor, electrically coupling said ends of the conductors of the microwave modules; and a **ground shield cap, oriented over the bridge**

conductor and electrically coupled to the second ground shield of each of the microwave modules. (Emphasis added.)

Applicants believe Ishihara discloses layers of metallization on dielectric layers; however, the layers of metallization do not surround the center conductor as the sides of the layers metallization are unconnected. Applicants assert Ishihara provides no suggestion or motivation for a microwave circuit with a first ground shield and a second ground shield that contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor. Furthermore, Ishihara provides no suggestion or motivation for a microwave circuit having a ground shield cap, oriented over a bridge conductor and electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules.

Applicants believe Arledge discloses a coaxial transmission line on a high density PCB. The coaxial transmission line has a center conductor which is surrounded in a direction transverse thereto by a dielectric material, which in turn is surrounded in a direction transverse thereto by a ground shield. Applicants assert Arledge provides no suggestion or motivation for at least the second dielectric and second ground shield being recessed from an end of the conductor terminating at or near a cut edge of the corresponding microwave module. Furthermore, Arledge provides no suggestion or motivation for microwave modules being mounted with cut edges facing one another. Arledge provides no suggestion or motivation for a bridge conductor or a ground shield cap.

Applicants believe neither Ishihara nor Arledge teach or suggest a ***microwave circuit comprising first and second microwave modules***, each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the corresponding microwave module; wherein, for each microwave module, ***the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor; the microwave***

modules being mounted with said cut edges facing one another, a bridge conductor, electrically coupling said ends of the conductors of the microwave modules; and a ground shield cap, oriented over the bridge conductor and electrically coupled to the second ground shield of each of the microwave modules. Applicants assert neither Ishihara nor Arledge provide any suggestion or motivation to one of ordinary skill in the art, without relying on a hindsight, to select the above-identified claimed features. Accordingly, claim 9 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

Claim 23, which depends directly from independent claim 9, is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 23 is respectfully requested.

Claim 10 calls for a ***method for coupling first and second microwave modules***, wherein each microwave module comprises: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; and wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from a first end of the conductor; wherein, for each microwave module, ***the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor***, the method comprising: for each of the microwave modules, cutting the microwave module in proximity to the first end of the conductor, thereby defining a first edge of the corresponding microwave module; mounting the microwave modules adjacent one another, with their first edges facing each other; electrically coupling said first ends of the conductors of the microwave modules; and ***placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.*** (Emphasis added.)

Applicants believe Ishihara discloses a method of connecting triplate lines by exposing a conductor through breaking off a part of the dielectric of a conductor and inserting a conductor into the notched part. Applicants assert Ishihara provides no suggestion or motivation for a method of coupling first and second microwave modules in which each microwave module has a first ground shield and a second

ground shield that contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor. Furthermore, Ishihara provides no suggestion or motivation for a method of coupling first and second microwave modules that includes a step of placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.

Applicants believe Arledge discloses a method of forming a coaxial transmission line on a high density PCB. The coaxial transmission line has a center conductor which is surrounded in a direction transverse thereto by a dielectric material, which in turn is surrounded in a direction transverse thereto by a ground shield. Applicants assert Arledge provides no suggestion or motivation for coupling first and second microwave modules by cutting each microwave module in proximity to the first end of the conductor. Furthermore, Arledge provides no suggestion or motivation for electrically coupling said first ends of the conductors of the microwave modules. Arledge provides no suggestion or motivation for placing a ground shield cap over a conductor coupling, and electrically coupling the ground shield cap to a second ground shield of each of the microwave modules.

Applicants believe neither Ishihara nor Arledge teach or suggest a **microwave circuit having first and second microwave modules**, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and a **ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and a **ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge provide any suggestion or motivation to one of ordinary skill in the art, without relying on a hindsight, to select the above-identified claimed features. Accordingly, claim 10 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

Claim 24, which depends directly from independent claim 10, is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 24 is respectfully requested.

Claim 16 calls for a **method comprising selecting first and second microwave modules**, each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the microwave module; wherein, for each microwave module, **the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor**, mounting the microwave modules adjacent one another, with said cut edge of the first microwave module facing said cut edge of the second microwave module; electrically coupling said ends of the conductors of the microwave modules; and **placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.** (Emphasis added.)

Applicants believe Ishihara discloses a method of connecting triplate lines by exposing a conductor through breaking off a part of the dielectric of a conductor and inserting a conductor into the notched part. Applicants assert Ishihara provides no suggestion or motivation for selecting first and second microwave modules in which each microwave module has a first ground shield and a second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor. Furthermore, Ishihara provides no suggestion or motivation for placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.

Applicants believe Arledge discloses a method of forming a coaxial transmission line on a high density PCB. The coaxial transmission line has a center conductor which is surrounded in a direction transverse thereto by a dielectric material, which in turn is surrounded in a direction transverse thereto by a ground shield. Applicants assert Arledge provides no suggestion or motivation for selecting first and second microwave modules in which at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or

near a cut edge of the microwave module. Furthermore, Arledge provides no suggestion or motivation for electrically coupling ends of the conductors of microwave modules. Arledge provides no suggestion or motivation for placing a ground shield cap over a conductor coupling, and electrically coupling the ground shield cap to a second ground shield of each of the microwave modules.

Applicants believe neither Ishihara nor Arledge teach or suggest a **microwave circuit having first and second microwave modules**, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and a **ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and a **ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge provide any suggestion or motivation to one of ordinary skill in the art, without relying on a hindsight, to select the above-identified claimed features. Accordingly, claim 10 is believed to be in condition for allowance, and allowance thereof is respectfully requested.

Claim 25, which depends directly from independent claim 16, is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 25 is respectfully requested.

5. Rejection of Claims 2, 4, 11, 13, 17 and 19 Under 35 U.S.C. 103(a)

Claims 2, 4, 11, 13, 17 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the rejection identified in Item 4 above as applied to claims 1, 10 and 16, and further in view of Cox et al. (U.S. Patent No. 6,100,774; hereinafter "Cox").

Applicants believe Cox discloses a wire or ribbon bond connection between a microstrip line and a modified square-ax transmission line.

Applicants believe neither Ishihara nor Arledge nor Cox disclose or suggest a **microwave circuit having first and second microwave modules**, each of which

comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and **a ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and **a ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge nor Cox provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 1. Inasmuch as claims 2 and 4 depend directly from independent claim 1, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claims 2 and 4 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Cox disclose or suggest **a method for coupling first and second microwave modules**, wherein each microwave module comprises: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; and wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from a first end of the conductor; wherein, for each microwave module, **the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor**; the method comprising: for each of the microwave modules, cutting the microwave module in proximity to the first end of the conductor, thereby defining a first edge of the corresponding microwave module; mounting the microwave modules adjacent one another, with their first edges facing each other; electrically coupling said first ends of the conductors of the microwave modules; and **placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge nor Cox provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 10.

Inasmuch as claims 11 and 13 depend directly from independent claim 10, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claims 11 and 13 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Cox disclose or suggest a **method comprising selecting first and second microwave modules**, each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the microwave module; wherein, for each microwave module, **the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor**; mounting the microwave modules adjacent one another, with said cut edge of the first microwave module facing said cut edge of the second microwave module; electrically coupling said ends of the conductors of the microwave modules; and **placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge nor Cox provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 16. Inasmuch as claims 17 and 19 depend directly from independent claim 16, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claims 17 and 19 is respectfully requested.

6. Rejection of Claims 3, 12 and 18 Under 35 U.S.C. 103(a)

Claims 3, 12 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the rejection identified in Item 4 above as applied to claims 10 and 16, and further in view of Drapeau et al. (U.S. Patent No. 6,307,446; hereinafter "Drapeau").

Applicants believe Drapeau discloses an elastic interconnect between two conductors.

Applicants believe neither Ishihara nor Arledge nor Drapeau disclose or suggest **a microwave circuit having first and second microwave modules**, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and **a ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor**, wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and **a ground shield cap**, oriented over the bridge conductor and **electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules**. Applicants assert neither Ishihara nor Arledge nor Drapeau provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 1. Inasmuch as claim 3 depends directly from independent claim 1, this claim is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 3 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Drapeau disclose or suggest **a method for coupling first and second microwave modules**, wherein each microwave module comprises: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; and wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from a first end of the conductor; wherein, for each microwave module, **the first ground shield and the second ground shield contact one another to**

surround the first dielectric and the second dielectric in a direction transverse to the conductor; the method comprising: for each of the microwave modules, cutting the microwave module in proximity to the first end of the conductor, thereby defining a first edge of the corresponding microwave module; mounting the microwave modules adjacent one another, with their first edges facing each other; electrically coupling said first ends of the conductors of the microwave modules; and ***placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.*** Applicants assert neither Ishihara nor Arledge nor Drapeau provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 10. Inasmuch as claim 12 depends directly from independent claim 10, this claim is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 12 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Drapeau disclose or suggest ***a method comprising selecting first and second microwave modules,*** each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the microwave module; wherein, for each microwave module, ***the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor;*** mounting the microwave modules adjacent one another, with said cut edge of the first microwave module facing said cut edge of the second microwave module; electrically coupling said ends of the conductors of the microwave modules; and ***placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.*** Applicants assert neither Ishihara nor Arledge nor Drapeau provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 16. Inasmuch as claim 18 depends directly

from independent claim 16, this claim is believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 18 is respectfully requested.

7. Rejection of Claims 5-8, 14, 15, 20 and 21 Under 35 U.S.C. 103(a)

Claims 5-8, 14, 15, 20 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the rejection identified in Item 4 above as applied to claims 10 and 16, and further in view of Dove et al. (U.S. Patent No. 6,457,979; hereinafter "Dove").

Applicants believe Dove discloses a cover secured in place by solder or conductive adhesive where the cover touches the ground layer at the op of the quasi-coaxial transmission line.

Applicants believe neither Ishihara nor Arledge nor Dove '979 disclose or suggest a ***microwave circuit having first and second microwave modules***, each of which comprises a conductor sandwiched between upper and lower thickfilm dielectrics, and a ***ground shield surrounding the upper and lower thickfilm dielectrics in a direction transverse to the conductor***; wherein, at a first end of each of the conductors, the conductor extends from beneath its upper thickfilm dielectric to terminate at a cut edge of its microwave module; and a ***ground shield cap***, oriented over the bridge conductor and ***electrically coupled to the ground shield surrounding the upper and lower thickfilm dielectrics of each of the microwave modules***. Applicants assert neither Ishihara nor Arledge nor Dove '979 provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 1. Inasmuch as claims 5-8 depend directly from independent claim 1, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claims 5-8 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Dove '979 disclose or suggest a ***method for coupling first and second microwave modules***, wherein each microwave module comprises: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi)

a second ground shield formed on the second dielectric; and wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from a first end of the conductor; wherein, for each microwave module, ***the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor***, the method comprising: for each of the microwave modules, cutting the microwave module in proximity to the first end of the conductor, thereby defining a first edge of the corresponding microwave module; mounting the microwave modules adjacent one another, with their first edges facing each other; electrically coupling said first ends of the conductors of the microwave modules; and ***placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the second ground shield of each of the microwave modules.*** Applicants assert neither Ishihara nor Arledge nor Dove '979 provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 10. Inasmuch as claims 14 and 15 depend directly from independent claim 10, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claim 14 and 15 is respectfully requested.

Applicants believe neither Ishihara nor Arledge nor Dove '979 disclose or suggest ***a method comprising selecting first and second microwave modules***, each comprising: i) a substrate, ii) a first ground shield formed on the substrate, iii) a first dielectric formed on the first ground shield, iv) a conductor formed on the first dielectric, v) a second dielectric formed on the conductor, and vi) a second ground shield formed on the second dielectric; wherein, for each microwave module, at least the second dielectric and second ground shield are recessed from an end of the conductor terminating at or near a cut edge of the microwave module; wherein, for each microwave module, ***the first ground shield and the second ground shield contact one another to surround the first dielectric and the second dielectric in a direction transverse to the conductor***, mounting the microwave modules adjacent one another, with said cut edge of the first microwave module facing said cut edge of the second microwave module; electrically coupling said ends of the conductors of the microwave modules; and ***placing a ground shield cap over the conductor coupling, and electrically coupling the ground shield cap to the***

second ground shield of each of the microwave modules. Applicants assert neither Ishihara nor Arledge nor Dove '979 provides any suggestion or motivation to one of ordinary skill in the art, without relying on hindsight, to select the above-identified features of independent claim 16. Inasmuch as claims 20 and 21 depend directly from independent claim 16, these claims are believed to be in condition for at least the above-identified reasons. Accordingly, allowance of claims 20 and 21 is respectfully requested.

Conclusion

In light of the amendments and remarks provided herein, Applicants respectfully request the timely issuance of a Notice of Allowance.

Respectfully submitted,
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